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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,238	10/17/2001	Dale K. Bell	60,130-1197/01MRA0362	5578
26096	7590	01/05/2004	EXAMINER	
CARLSON, GASKEY & OLDS, P.C. 400 WEST MAPLE ROAD SUITE 350 BIRMINGHAM, MI 48009			SMITH, JULIE KNECHT	
			ART UNIT	PAPER NUMBER
			3682	

DATE MAILED: 01/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/981,238

Applicant(s)

BELL, DALE K.

Examiner

Julie K Smith

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 11 and 14 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11 and 14 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 January 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Withdrawal of Finality

1. The finality of the previous office action, dated 10/01/03, has been withdrawn.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-7, 10-11 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al. (4,739,678) in view of Miller et al. (5,492,419).

Miura et al. discloses a drive axle assembly (see fig. 2) comprising an axle housing (52), coaxial axle shafts (601, 602) supported at least partially within said axle housing, a driven shaft (706) having a yoke at one end and supported at least partially within said housing transverse to said axle shafts, a gear assembly (711,712) disposed within said housing coupling said axle and driven shafts, and a bearing assembly (707,708) supporting said driven shaft in said housing.

Miura et al. further discloses a differential coupling said axle and driven shafts to permit relative motion between said axle shafts. Miura et al. does not disclose the seal arrangement as claimed by the applicant. However, Miller et al. teaches a bearing arrangement (see fig. 1) for a pinion, a through shaft or an input shaft (see col. 1, lines 5-12) comprising a cup affixed to a cage and a cone affixed to a shaft with rolling elements held in place by a retainer arranged between said

cup and cone, a first seal (52) interposed between said cone and a pinion bearing cage adjacent to said yoke (24) and a second seal (50) interposed between said cone and said bearing cage adjacent said pinion, said seals separating said housing into first and second cavities (76, outside of 76) with said bearing assembly and said gear assembly respectively disposed therein, a first lubricant in said first cavity lubricating said bearing assembly and a second lubricant different than said first lubricant in said second cavity lubricating said gear assembly (see col. 3, lines 10-15).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the seal arrangement of Miura et al. with the teachings of Miller et al. so as to provide a bearing sealed on both ends so as to divide the assembly into two chambers, each having a different lubricant, and prevent the lubricants from entering the adjacent chambers.

4. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miura et al. in view of Miller et al. as applied to claims 1-7, 10-11 and 14 above, and further in view of Tersigni et al. (5,763,372). The reference combination set forth above discloses an axle assembly but is silent as to the lubricant used in the assembly. However, Tersigni et al. teaches a GL-5 gear lubricant additive used in transmission applications (see col. 14, lines 59-67).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the lubricant of the reference combination set forth above with the lubricant as taught by Tersigni et al. so as to increase efficiency, reduce friction and reduce corrosion of the axle assembly.

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Response to Arguments

5. Applicant's arguments, filed 11-30-03, have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Miura et al. in view of Miller et al.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5,267,914 to Eastman et al.

6,244,386 to Takasaki et al.

3,763,961 to Casale

4,948,271 to Nunotani et al.

4,677,871 to Taniyama et al.

5,667,313 to Kapaan et al.


5,553,870 to Czekansky et al.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Julie K Smith whose telephone number is 703-305-3948. The examiner can normally be reached on Monday-Friday, 8-5:30, (Every other Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David A Bucci can be reached on 703-308-3668. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

JLS
Jks
December 22, 2003


DAVID A. BUCCI
SUPERVISOR, ART UNIT EXAMINER
TECHNOLOGY CENTER 3600